

Applicant : Daniel R. Jacques
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REMARKS

Applicant respectfully requests reconsideration of this application. Claims 1-5, 9-17, 19-25 and 29-31 are pending. All of the independent claims (Claims 1, 21 and 29) are currently amended to more particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Claims 26-28 remain canceled, and claims 6-8 and 18 remain withdrawn.

I. Summary of the Invention

The present invention relates to a portable foamer for spraying effluent in foam form. The claimed invention includes a mixing chamber in the flow controller where pressurized air and liquid combine after having been segregated from the point they exit the tank until the point they combine in the mixing chamber. The mixing chamber is configured to combine air and liquid together in such a way as to generate foam within the mixing chamber. The foam is expelled from the sprayer.

II. Art Rejections

A. Section 103 Rejection Based on Altenburger and Hayes

As previously presented, claims 1-5, 9, 11-17, 21-22 and 29 were rejected under 35 U.S.C 103(a) as being unpatentable over U.S. Patent 1,979,135 to Altenburger and U.S. Patent 3,801,015 to Hayes. Applicant respectfully traverses the Section 103 rejection.

As discussed in Applicants previous Response, filed May 10, 2007, Altenburger is directed to a liquid sprayer, not a foam sprayer. Altenburger includes segregated lines to carry

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liquid and compressed gas to a spray nozzle to provide greater carrying power to the liquid discharge. As noted in the Office Action, Altenburger does not disclose a mixing chamber in the flow controller to generate foam. Hayes is an example of precisely that which the present invention was intended to overcome. Hayes is a foamer that generates foam at the tank and conveys the foam through a single supply line all the way to the nozzle. With this construction, the foam is likely to break down as it travels against back-pressure through the extended supply line to the flow controller.

Applicants submit that the rejection under Section 103 is improper because there is no reason that a person of skill in the art would combine Altenburger with Hayes. “A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co., v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). “It can be important to identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* In the present case, no such reason exists. Altenburger says nothing about the generation of foam – let alone the generation of foam within a mixing chamber in the flow controller. Altenburger’s sole concern is to provide greater carrying power to the *liquid* discharge. In fact, the generation of foam would destroy the intended function of Altenburger, because it would decrease and not increase its carrying power. Hayes discloses a foamer, but mentions nothing about segregating the air and liquid until it mixes within a mixing chamber in the flow controller. Nothing in either reference provides a reason for doing so.

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Applicants additionally submit that Altenburger and Hayes are not combinable because both references – along with the rest of the prior art – fail to recognize the problem that is addressed by the present invention. Hayes supports the conventional teaching that a foamer should generate foam in a chamber adjacent to the tank. It completely fails to recognize that the foam may break down significantly as it travels to the flow controller. Altenburger, as noted above, is inapposite because it is not directed to foam generation.

Finally, Applicants submit that Altenburger and Hayes, either alone or in combination, do not even disclose every element of the present invention. In short, they do not disclose a flow controller having a mixing chamber. To the contrary, they both teach away from this structure. Altenburger intentionally avoids a mixing chamber to prevent the generation of foam and the resulting reduction in carrying power, and Hayes teaches that foam should be generated adjacent the tank and *then* transported to the flow controller.

Because Altenburger and Hayes are not combinable, and further because even if combined they do not disclose every element of the independent claims, Applicants submit that the rejections with respect to Section 103 based on Altenburger and Hayes are overcome and/or should be withdrawn.

B. Dependent Claims

The dependent claims present additional subject matter and are therefore even more clearly allowable. Claim 2 recites a hand pump for pressurizing the air in the headspace. Claim 3 recites that the control valve is located between the tank and the flow controller along the air delivery system. Claim 4 recites that the air control valve is a needle valve. Claim 5

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recites that the air control valve is a pinch valve. Claim 9 recites that exterior surface of the tank contains an inlet orifice. Claim 11 recites that the air delivery system includes an exit orifice in the headspace portion of the tank. Claim 12 recites a withdrawal tube inserted into the tank through an exit orifice, in which one end of the withdrawal tube is connected to a liquid transport system and the other penetrates the interior of the tank to near the bottom of the tank. Claim 13 recites that the liquid delivery system includes an exit orifice located near the bottom of the tank, which is connected to a liquid transport system. Claim 14 recites that the liquid delivery system includes a flexible hose penetrating through the orifice into the tank. Claim 15 recites that the air transport system includes a flexible hose, whereby air is transported to the flow controller. Claim 16 recites that the liquid transport system includes a flexible hose, whereby liquid is transported to the flow controller. Claim 17 recites that the air and liquid delivery systems are arranged substantially side-by-side. Claim 19 recites that the sprayer contains a mixing medium in the fluid flow path. Claim 20 recites that the mixing medium is a fibrous mesh. Claim 22 recites that the flow controller defines a mixing chamber in communication with the air transport hose and the liquid transport hose, wherein liquid delivered by the liquid transport hose is merged with air delivered by the air transport hose. Claim 23 recites that the flow controller includes a fitting at which the air transport hose and the liquid transport hose are connected to the flow controller, the fitting defines the mixing chamber, wherein liquid delivered by the liquid transport hose is merged with air delivered by the air transport hose. Claims 24, 25 and 30 recite a mixing medium disposed within or downstream from the mixing chamber. Claim 31 recites that the mixing medium is disposed immediately upstream of the nozzle.

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With regard to claims 19-20, 24-25 and 30-31, it is asserted that the addition of a mixing medium is obvious because the Specification of the present application states that it can be absent. Applicant respectfully disagrees. The fact that a feature can be absent from an invention does not logically lead to a conclusion that the addition of that feature would be obvious.

III. Conclusion

In view of the above Remarks, it is respectfully submitted that the application is in condition for allowance. A notice to that effect is earnestly and respectfully solicited. If the Examiner believes that it would be helpful to resolve any outstanding issues, he is invited to contact the undersigned.

Respectfully submitted,

DANIEL R. JACQUES

By: Warner Norcross & Judd LLP

/Chad E. Kleinheksel/

Chad E. Kleinheksel
Registration No. 56,141
900 Fifth Third Center
111 Lyon Street, N.W.
Grand Rapids, MI 49503-2487
(616) 752-2313